



**ARL is an Authority on Nutrition
and the Science of Balancing Body
Chemistry Through Hair Tissue
Mineral Analysis!**

Hair Tissue Mineral Analysis


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Insomnia and the Oxidation Rate

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Insomnia and the Oxidation Rate

Difficulty sleeping is a common complaint that often is due to nutritional imbalances. We know this is the case because insomnia often responds well to a corrective nutrition program. It will be helpful to divide the causes of insomnia into those experienced by fast and slow oxidizers.

Fast Oxidation And Insomnia

One cause of insomnia, as revealed by hair mineral research, is excessively fast oxidation. Several mechanisms are involved.

Fast oxidizers have low levels of tissue calcium and magnesium. Even though levels appear normal on a blood test, tissue calcium and magnesium can be deficient. On the hair test, the levels of calcium and magnesium may appear normal or even high. However, in relation to sodium and potassium, calcium and magnesium are low in these individuals. This is why ratios are so important on hair tests.

Calcium and magnesium have a sedative effect on the central nervous system. When these elements are deficient, sleep difficulty can arise due to an overactive nervous system. Excessive adrenal and thyroid gland activity are reflected in the low levels of calcium and magnesium. Overactive adrenal activity can keep a person awake. This is a common cause of restlessness and poor sleep habits in babies and children. Parents are often astonished at the ease with which their baby or young child goes to bed when calcium, magnesium and supporting nutrients are supplemented.

Another reason for insomnia in fast oxidizers is muscle tightness and muscle cramps. Low tissue calcium and magnesium may cause excessive muscle tension that can impair sleep. Some fast oxidizers fall asleep normally, but awake at night with twitches, leg cramps or 'restless leg' syndromes.

Slow Oxidizers And Insomnia

Slow oxidizers have elevated calcium and magnesium on their hair tests, in relation to the levels of sodium and potassium. Blood tests usually will not reveal this imbalance.

Slow oxidizers may experience muscle cramps and tightness. The cause is different, however, than in fast oxidizers. Fast oxidizers lose calcium and magnesium through the urine as part of the fight-flight response. Slow oxidizers lose calcium and magnesium because the minerals cannot be retained in the blood in an ionized form. They become biologically unavailable and build up in the soft tissues, causing the high hair readings.

Thus, many slow oxidizers have a deficiency of available calcium and magnesium. This causes muscle tightness and cramps that can interfere with rest and sleep.

Slow oxidizers, however, also experience insomnia due to copper toxicity. Copper enhances the production of the biogenic amines. These neurotransmitters have a stimulating effect upon brain activity. Often the slow oxidizer complains that his "mind races" when it is time to go to sleep. This is one effect of copper toxicity.

Slow oxidizers may experience the paradox of being very tired but unable to sleep. One reason is that copper toxicity worsens when one is fatigued. This is because adequate adrenal activity is needed to produce ceruloplasmin, the protein which binds and removes excess copper.

This mechanism explains why some people sleep *better* when they take B-complex vitamins before bed. The B vitamins increase adrenal activity which in turn reduces copper levels enough to allow normal sleep.

Toxic Metals And Insomnia

Many toxic metals can interfere with sleep. Toxic metals may cause muscle tightness or central nervous system irritability. Toxic metals also interfere and displace vital minerals needed for restful sleep.

For example, lead displaces the sedative mineral calcium. Lead can cause the symptoms of a calcium deficiency. Cadmium interferes with both calcium and zinc. Excessive mercury is closely associated with copper toxicity.

A rule of thumb is that if a mineral analysis reveals lead toxicity, one may assume that a calcium deficiency is present, regardless of the calcium reading. Similarly, cadmium toxicity often implies a hidden zinc and calcium deficiency regardless of the hair zinc reading. Mercury toxicity indicates a hidden copper toxicity.

These associations have been proven over and over again in our research. As the toxic metals are eliminated, the underlying vital mineral deficiencies become apparent.

Correction Of Insomnia

A complete nutritional balancing program is the best way to correct sleep difficulties. However, when a complete program isn't possible, or in addition to a general program, several nutritional remedies may be very helpful:

- Because melatonin has been reported to reduce arousal and increase sleep-propensity, taking (1) 3 mg. tablet of melatonin 1 to 2 hours before bedtime may be beneficial.
- Extra calcium and magnesium.** Several extra tablets of calcium and magnesium before bed is helpful for some individuals with insomnia.
- Valerian Root.** Valerian is a time-tested herb that has a sedative effect upon the nervous system without causing the 'hangover' feeling that may occur with sleep medications.
- Zinc and B6.** Extra tablets of zinc and vitamin B6 before bed can help insomnia in those with high copper levels.
- Caffeine and heavy meals late at night are usually detrimental for sleep. Some people, however, sleep better if they eat something before bed. Foods high in tryptophan such as milk, cheese or yogurt are recommended.
- Avoid becoming overtired, slow down in the evening, avoid stimulating activities in the evening and develop regular sleep habits.
- Other procedures.** Some people are helped by relaxation exercises, stretching, a cool shower before bed or soothing sounds such as recordings of ocean waves.
- If sleep difficulties arise while on a nutrition program, it may be necessary to avoid supplements designed to increase body energy, such as glandulars, or vitamin B12 supplements, in the evening.

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